Pearson Edexcel

# A Level Music Technology

## Sample Assessment Materials

**Pearson Edexcel Level 3 Advanced GCE in Music Technology (9MT0)**

*First teaching from September 2017*

*First certification from 2019*

Issue 3

**Edexcel, BTEC and LCCI qualifications**

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# Summary of Pearson Edexcel Level 3 Advanced GCE in Music Technology SAMs
# Issue 3 changes

| Summary of changes made between previous issue and this current issue | Page number |
|---|---|
| The following changes have been made to Component 1: Recording (9MT0/01) | |
| 'Recordings must be submitted digitally in the format detailed in the administrative support guide which can be found on the Pearson website, along with the logbook and authentication form.' to<br>'Recordings must be submitted via the online submission platform Learner Work Transfer (LWT), along with the logbook and authentication form.' | 5 |
| 'Centres are reminded that recordings must be submitted digitally in the format detailed in the administrative support guide found on the Pearson website.' to<br>'Centres are reminded that recordings must be submitted via the online submission platform LWT.' | 9 |
| The following changes have been made to Component 2: Composing (9MT0/02) | |
| 'Recordings of the technology-based compositions must be submitted digitally in the format detailed in the administrative support guide which can be found on the Pearson website, along with the logbook and authentication form.' to<br>'Recordings of the technology-based compositions must be submitted via the online submission platform LWT, along with the logbook and authentication form.' | 23 |
| 'Centres are reminded that recordings of technology-based compositions must be submitted digitally in the format detailed in the administrative support guide found on the Pearson website.' to<br>'Centres are reminded that recordings of technology-based compositions must be submitted via the online submission platform LWT.' | 29 |

Earlier issue 2 shows previous changes.
If you need further information on these changes or what they mean, contact us via our website at: qualifications.pearson.com/en/support/contact-us.html.

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# Introduction

The Pearson Edexcel Level 3 Advanced GCE in Music Technology is designed for use in schools and colleges. It is part of a suite of GCE Level qualifications offered by Pearson.

These sample assessment materials have been developed to support this qualification and will be used as the benchmark to develop the assessment students will take.

# General marking guidance

- All candidates must receive the same treatment. Examiners must mark the last candidate in exactly the same way as they mark the first.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than be penalised for omissions.
- Examiners should mark according to the mark scheme – not according to their perception of where the grade boundaries may lie.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification/indicative content will not be exhaustive. However different examples of responses will be provided at standardisation.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, a senior examiner must be consulted before a mark is given.
- Crossed-out work should be marked **unless** the candidate has replaced it with an alternative response.

## Marking guidance for levels based mark schemes

### How to award marks

The indicative content provides examples of how students will meet each skill assessed in the question. The levels descriptors and indicative content reflect the relative weighting of each skill within each mark level.

#### Finding the right level

The first stage is to decide which level the answer should be placed in. To do this, use a 'best-fit' approach, deciding which level most closely describes the quality of the answer. Answers can display characteristics from more than one level, and where this happens markers must use the guidance below and their professional judgement to decide which level is most appropriate.

#### Placing a mark within a level

After a level has been decided on, the next stage is to decide on the mark within the level. The instructions below tell you how to reward responses within a level. However, where a level has specific guidance about how to place an answer within a level, always follow that guidance. Statements relating to the treatment of students who do not fully meet the requirements of the question are also shown in the indicative content section of each levels based mark scheme. These statements should be considered alongside the levels descriptors.

Markers should be prepared to use the full range of marks available in a level and not restrict marks to the middle. Markers should start at the middle of the level (or the upper-middle mark if there is an even number of marks) and then move the mark up or down to find the best mark. To do this, they should take into account how far the answer meets the requirements of the level:

- if it meets the requirements fully, markers should be prepared to award full marks within the level. The top mark in the level is used for answers that are as good as can realistically be expected within that level
- if it only barely meets the requirements of the level, markers should consider awarding marks at the bottom of the level. The bottom mark in the level is used for answers that are the weakest that can be expected within that level
- the middle marks of the level are used for answers that have a reasonable match to the descriptor. This might represent a balance between some characteristics of the level that are fully met and others that are only barely met.

# Pearson Edexcel Level 3 GCE

# Music Technology

## Advanced
## Component 1: Recording

Sample assessment material for first teaching September 2017
**Task**

Paper Reference
**9MT0/01**

**You do not need any other materials.**

### Instructions for Teachers

- This task must not be released before 1 June in the calendar year preceding the year in which the qualification is to be awarded.
- Recordings must be submitted via the online submission platform Learner Work Transfer (LWT), along with the logbook and authentication form.
- Centres are reminded that each candidate submission must be presented separately and this must be clearly marked with the paper reference, centre number, candidate name and candidate number.
- Centres must retain backup copies of all candidate recordings and proprietary software files for all tasks.
- All assessment materials must be sent to the examiner to arrive by 15 May.

### Information for Candidates

- The total mark for this component is 60.
- This document outlines the task for the recording.
- The recording must last between 3 and 3½ minutes.
- You must fulfil the instrumentation requirements.
- You must record one song from the list of 10 songs.

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**Recording Task**

Produce a stereo mix of a song from the list of 10 songs that meets the instrumental requirements listed below.

Your recording must demonstrate competencies in capture of sound and use of EQ, dynamic processing, effects, stereo, balance and blend.

Your recording must last between 3 and 3½ minutes

Your recording must meet the following instrumentation requirements:

<table>
<tr><th colspan="2">Instrumentation requirements</th></tr>
<tr><td>Compulsory audio instruments<br><br>You must record all the instruments in this list.<br><br>They each must be played for a total of at least 2 minutes.</td><td>Additional audio instruments<br><br>You must record at least two different instruments from this list.<br><br>They each must be played for a total of at least 1 minute.</td></tr>
<tr><td>Drum kit recorded with a minimum of 4 microphones<br><br>Bass guitar or double bass<br><br>Electric guitar<br><br>Lead vocal<br><br>Backing vocal</td><td>Acoustic melody instrument<br><br>Acoustic guitar<br><br>Keyboard</td></tr>
<tr><td colspan="2">Additional instances of any of the instruments listed above may be used in the recording, if appropriate to the instrumentation of the chosen song, e.g. additional guitar and/or keyboard part.<br><br>Additional unpitched percussion instruments (including electronic percussion) must not be included in the recording.<br><br>You may capture keyboard instruments using microphones, DI, or plug-in virtual instruments. It is not acceptable to use plug-in virtual instruments to replace any of the other instruments. This includes drum replacement software and other virtual instrument player software.</td></tr>
</table>

**List of 10 Songs**

You **must** choose **one song** from the following list

Pink – *Who Knew*
Beyonce – *If I Were A Boy*
Stereophonics – *Could You Be the One*
No Doubt – *Don't Speak*
R.E.M. – *Losing My Religion*
David Bowie – *Modern Love*
Bruno Mars – *Locked Out of Heaven*
Evanescence – *Going Under*
Rolling Stones – *(I can't get no) Satisfaction*
PJ Harvey – *Good Fortune*

If the chosen song is longer than 3½ minutes, you should fade or finish it within the given timeframe by omitting, for example, a verse, chorus or middle eight.

You must:
- ensure the recording is free from distortion and noise
- use contemporary production techniques for stereo
- use EQ that reflects contemporary standards of clarity.

You may use any of the following techniques as appropriate:
- drop-ins/overdubs
- double tracking
- compiling complete performances from several takes
- sequencing of virtual instruments or live recording to capture keyboards
- editing of timing or pitch.

You may:
- replicate the instrumentation as performed on the original stimulus or adapt the performances to suit your chosen instruments
- adapt the song to fade or finish after 3 and before 3½ minutes.

You must not use looping techniques to construct tracks from short sections of audio or MIDI. However, it is acceptable to correct occasional performance mistakes using short sections of audio from elsewhere in the song.

You must be in sole charge of the recording process from capture of audio to mixdown. Sharing of audio files between candidates is not permitted.

**You must submit your recording digitally in the format detailed in the administrative support guide, found on the Pearson website.**

# Pearson Edexcel Level 3 GCE

# Music Technology

## Advanced
## Component 1: Recording

Sample assessment material for first teaching September 2017
**Logbook and authentication form**

Paper Reference
**9MT0/01**

**You do not need any other materials.**

### Instructions for Teachers

- The logbook and authentication form must be completed and presented for assessment along with the recording.
- Centres are reminded that recordings must be submitted via the online submission platform LWT.
- Centres must retain backup copies of all candidate recordings and proprietary software files for all tasks.
- All assessment materials must be sent to the examiner to arrive by 15 May.

### Information for Candidates

- The total mark for this component is 60.
- Use **black** ink or ball-point pen.
- Answer the sections in the spaces provided
  *– there may be more space than you need.*
- The sections in this booklet ask you for information which is essential for the examiner who assesses your work.
- If you do not complete the logbook and authentication form, your work may not be fully credited.
- It is not necessary to supply additional material such as screenshots.

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| Title of song recorded |
|---|
| |

Complete the Instrument listing below to show the instruments you have recorded and the microphone type, DI, or other capture method used.

| Track listing | | | |
|---|---|---|---|
| **Compulsory audio instruments** | **Capture method** | **Timing references of recordings** | **Playing time** |
| Drum kit – minimum of four microphones | | | |
| Lead vocal | | | |
| Backing vocal | | | |
| Bass guitar or double bass | | | |
| Electric guitar | | | |
| **Additional audio instruments** | **Capture method** | **Timing references of recordings** | **Playing time** |
| Acoustic melody instrument | | | |
| Acoustic guitar | | | |
| Keyboard | | | |
| **Other instruments** | **Capture method** | **Timing references of recordings** | **Playing time** |
| | | | |
| | | | |
| | | | |
| | | | |

In the space provided, draw labelled diagrams to show your microphone positioning and choices. You must include details of position, mic type and any adjustable mic settings used, for all of the compulsory instruments. You may use photos if preferred but they must be clearly annotated.

Complete the track sheet below to illustrate your mix and processing decisions.

| | Track 1 | Track 2 | Track 3 | Track 4 | Track 5 | Track 6 | Track 7 | Track 8 |
|---|---|---|---|---|---|---|---|---|
| Instrument/ Voice | | | | | | | | |
| EQ | | | | | | | | |
| FX | | | | | | | | |
| Dynamic processing | | | | | | | | |
| Panning (L–R) | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| Level | | | | | | | | |

| | Track 9 | Track 10 | Track 11 | Track 12 | Track 13 | Track 14 | Track 15 | Track 16 |
|---|---|---|---|---|---|---|---|---|
| Instrument/ Voice | | | | | | | | |
| EQ | | | | | | | | |
| FX | | | | | | | | |
| Dynamic processing | | | | | | | | |
| Panning (L–R) | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| Level | | | | | | | | |

| | Track 17 | Track 18 | Track 19 | Track 20 | Track 21 | Track 22 | Track 23 | Track 24 |
|---|---|---|---|---|---|---|---|---|
| Instrument/ Voice | | | | | | | | |
| EQ | | | | | | | | |
| FX | | | | | | | | |
| Dynamic processing | | | | | | | | |
| Panning (L–R) | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| Level | | | | | | | | |

**Teacher declaration**

I declare that the work submitted for assessment has been carried out without assistance other than that which is acceptable according to the rules of the specification.

| | | | |
|---|---|---|---|
| **Teacher name:** | | | |
| **Teacher signed:** | | **Date:** | |

**Candidate declaration**

I certify that the work submitted for this assessment is my own. I have clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.

| | | | |
|---|---|---|---|
| **Candidate signed:** | | **Date:** | |

By signing the above declaration you agree to your work being used to support professional development, online support and training of both centre-assessors and Pearson examiners. If you have any concerns please email: teachingmusic@pearson.com

If you do not wish for your work to be used by Pearson to support training and development, please tick here ☒.

Please present this completed form with the student's submission.

## Component 1: Recording – marking instructions

The overall length of the recording must be 3–3½ minutes.

**Under length recordings**

Mark the recording as normal using the grids below.
If the recording is under-length the mark will be reduced proportionally according to the percentage that the recording is under length, using the formula below.

**Length of recording in seconds ÷ 180 seconds (minimum time allowed) x original mark = adjusted mark**.
For example: a 120 second recording with an original mark of 40 marks:
**120 seconds ÷ 180 seconds x 40 marks = 26.667 marks**
The mark awarded = **27**

Decimals will be rounded to the nearest whole number (if the number after the decimal point is 5 or more, it is rounded up to the nearest whole number)

**Over length recordings**

Mark the recording as normal using the grids below.
If the recording is over length a mark above level 2 cannot be achieved for assessment grid 7 (production)

**Other instructions**

Mark the recording as normal using the grids below

If the recording contains additional unpitched percussion instruments (including electronic percussion), a mark of 0 must be applied to assessment grid 5 (balance and blend) and assessment grid 7 (production).

If timing of instrument(s) appear to be inaccurate, please check, by timing the appropriate instrument(s).
If the timing does not meet the minimum playing time requirement, a mark above level 2 cannot be achieved for assessment grid 5 (balance and blend).

**Recording assessment grids**

In the case of assessment grids 1–4, marks are awarded in the three categories shown below:

- drum kit
- vocals (lead and backing)
- other parts as required by the task, and handling across entire mix.

In the case of assessment grids 5–7, marks are awarded for all tracks in the mix.

Total marks 60.

**Assessment grid 1**

| | Drum kit | Vocals | Other parts | Capture<br>**Use of microphones and DI to capture live performance.** |
|---|---|---|---|---|
| **Level** | **Mark** | **Mark** | **Mark** | |
| | 0 | 0 | 0 | No rewardable material; no live capture using microphones or DI. |
| **Level 1** | 1 | 1 | 1 | Limited success of capture; misjudgements detract from the clarity throughout. |
| **Level 2** | 2 | 2 | 2 | Inconsistent capture; misjudgements occasionally detract from clarity. |
| **Level 3** | 3 | 3 | 3 | Competent capture; misjudgements do not impact significantly on clarity. |
| **Level 4** | 4 | 4 | 4 | Excellent capture throughout. |
| | **TOTAL** for Capture – **12 marks** | | | |

**Assessment grid 2**

| | Drum kit | Vocals | Other parts | Editing – processing EQ (drum kit, vocals, other parts)<br>Assessment of other parts must also consider distribution of frequencies across entire mix |
|---|---|---|---|---|
| **Level** | **Mark** | **Mark** | **Mark** | |
| | 0 | 0 | 0 | No rewardable material, including extreme uncontrolled variation in EQ in a number of places. |
| **Level 1** | 1 | 1 | 1 | Limited success in shaping EQ; misjudgements detract from the overall mix throughout. |
| **Level 2** | 2 | 2 | 2 | Inconsistent shaping of EQ; misjudgements occasionally detract from the overall mix. |
| **Level 3** | 3 | 3 | 3 | Competent shaping of EQ; misjudgements do not impact significantly on the overall mix. |
| **Level 4** | 4 | 4 | 4 | Excellent shaping of EQ throughout. |
| | **TOTAL** for Processing EQ – **12 marks** | | | |

**Assessment grid 3**

| | **Drum kit** | **Vocals** | **Other parts** | **Editing – dynamic processing (drum kit, vocals and other parts)**<br>Assessment of other parts must also consider management of dynamics across the entire mix |
|---|---|---|---|---|
| **Level** | **Mark** | **Mark** | **Mark** | |
| | 0 | 0 | 0 | No rewardable material, including extreme uncontrolled variation in dynamics in a number of places. |
| **Level 1** | 1 | 1 | 1 | Limited success in management of dynamics; misjudgements detract from the overall mix throughout. |
| **Level 2** | 2 | 2 | 2 | Inconsistent management of dynamics; misjudgements occasionally detract from the overall mix. |
| **Level 3** | 3 | 3 | 3 | Competent management of dynamics; misjudgements do not impact significantly on the overall mix. |
| **Level 4** | 4 | 4 | 4 | Excellent management of dynamics throughout. |
| | **TOTAL** for Processing Dynamics – **12 marks** | | | |

**Assessment grid 4**

| | **Drum kit** | **Vocals** | **Other parts** | **Editing – use of effects, including ambience (drum kit, vocals, other parts)** assessment of other parts must also consider distribution of effects across entire mix |
|---|---|---|---|---|
| **Level** | **Mark** | **Mark** | **Mark** | |
| | 0 | 0 | 0 | No rewardable material, including extreme misjudgements in effects use in most parts. |
| **Level 1** | 1 | 1 | 1 | Limited success in use of effects; misjudgements detract from the overall mix throughout. |
| **Level 2** | 2 | 2 | 2 | Inconsistent use of effects; misjudgements occasionally detract from the overall mix. |
| **Level 3** | 3 | 3 | 3 | Competent use of effects; misjudgements do not impact significantly on the overall mix. |
| **Level 4** | 4 | 4 | 4 | Excellent use of effects throughout. |
| | **TOTAL** for Processing Effects – **12 marks** | | | |

**Assessment grid 5**

| **Marking instructions**<br>No higher than Level 2 will be awarded if any instrument does not meet the minimum playing time.<br>0 marks will be awarded if unpitched percussion instruments (including electronic percussion) are present. | | |
|---|---|---|
| **Level** | **Mark** | **Production – balance and blend** |
| | 0 | No rewardable material, including extreme misjudgements in balance and blend in most parts; parts missing or inaudible. |
| **Level 1** | 1 | Limited success with balance and blend; misjudgements detract from the overall mix. |
| **Level 2** | 2 | Inconsistent balance and blend; misjudgements occasionally detract from the overall mix. |
| **Level 3** | 3 | Competent balance and blend; misjudgements do not impact significantly on the overall mix. |
| **Level 4** | 4 | Excellent balance and blend throughout. |

**Assessment grid 6**

| **Level** | **Mark** | **Production – use of stereo** |
|---|---|---|
| | 0 | No rewardable material, including completely mono submission or only one channel present. |
| **Level 1** | 1 | Limited success in use of stereo; misjudgements detract from the overall mix throughout. |
| **Level 2** | 2 | Inconsistent use of stereo; misjudgements occasionally detract from the overall mix. |
| **Level 3** | 3 | Competent use of stereo; misjudgements do not impact significantly on the overall mix. |
| **Level 4** | 4 | Excellent use of stereo throughout. |

**Assessment grid 7**

**Marking instructions**

No higher than Level 2 will be awarded if the student submission is longer than the required maximum length.

0 marks will be awarded if additional unpitched percussion instruments (including electronic percussion) are present.

| Level | Mark | Production – management of noise, distortion, master level and audio editing (including compiling, pitch correction, handling of fades, top and tail) |
|---|---|---|
| | 0 | No rewardable material. |
| **Level 1** | 1 | Limited success in management of noise, distortion, master level and audio editing; misjudgements detract from the overall mix. |
| **Level 2** | 2 | Inconsistent management of noise, distortion, master level and audio editing; misjudgements occasionally detract from the overall mix. |
| **Level 3** | 3 | Competent management of noise, distortion, master level and audio editing; misjudgements do not impact significantly on the overall mix. |
| **Level 4** | 4 | Excellent management of noise, distortion, master level and audio editing throughout. |

# Pearson Edexcel Level 3 GCE

# Music Technology

## Advanced
## Component 2: Technology-based composition

Sample assessment material for first teaching September 2017
**Brief**

Paper Reference
**9MT0/02**

**You do not need any other materials.**

### Instructions for Teachers

- This brief must not be released before 1 September in the calendar year preceding the year in which the qualification is to be awarded.
- Recordings of the technology-based compositions must be submitted via the online submission platform LWT, along with the logbook and authentication form.
- Centres are reminded that each candidate submission must be presented separately and this must be clearly marked with the paper reference, centre number, candidate name and candidate number.
- Centres must retain backup copies of all candidate technology-based compositions and proprietary software files for all tasks.
- All assessment materials must be sent to the examiner to arrive by 15 May.

### Information for Candidates

- The total mark for this component is 60.
- This document outlines the task for the technology-based composition.
- The technology-based composition must be 3 minutes long.
- You must fulfil the requirement for the number of vocal, instrumental, sample-based parts.

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**Technology-based composition**

Create a technology-based composition based on **one** of the three briefs provided.

The technology-based composition must contain at least **six** separate vocal, instrumental, sample based parts.

You must use the following sound design methods in creating your instrumental parts:
- synthesis
- sampling/audio manipulation
- creative effects
- automation and real-time control.

In addition, you may also use any combination of:
- MIDI-controlled virtual instruments
- live recorded audio.

Samples and loops must be manipulated in order to gain credit.

Your logbook must detail the original sound design you have done using synthesis, sampling and creative effects. Any samples that you have used should be credited in your logbook with details of any processing, and the source of the samples (whether they are from a commercial set or are self-recorded).

You must produce a high quality stereo recording of your technology-based composition that pays attention to all aspects of production – capture, balance, blend, EQ, dynamics, stereo field and effects.

**You must submit your recording digitally in the format detailed in the administrative support guide, found on the Pearson website.**

**Technology-based composition brief 1**

**Bob**

You have been commissioned to create the music for this video. Your technology-based composition should reflect the action, emotions and pace of the film, and be timed to accurately sync with the scenes and images. You must use the movie file located on the Edexcel website and not any other version:

You must not include Foley soundtrack or dialogue.

You must not sample audio from any version of the movie.

Your composition must be 3 minutes long.

(link to Pearson website will be placed here)

**Technology-based composition brief 2**

**The Cat that Walked by Himself**

Create a composition using the extract taken from *The Cat that Walked by Himself* by Rudyard Kipling.

The meaning of the text must be reflected in the music. Your composition may take the form of a song (which must include recorded vocals using the text), or a piece of contemporary music using audio samples created from recorded extracts of the text. You may adapt or re-order the words.

Your composition must be 3 minutes long.

*The Cat that Walked by Himself* by Rudyard Kipling

The Woman laughed and said, 'Wild Thing out of the Wild Woods, go back to the Woods again, for I have braided up my hair, and I have put away the magic blade-bone, and we have no more need of either friends or servants in our Cave.

Cat said, 'I am not a friend, and I am not a servant. I am the Cat who walks by himself, and I wish to come into your cave.'

Woman said, 'Then why did you not come with First Friend on the first night?'

Cat grew very angry and said, 'Has Wild Dog told tales of me?'

Then the Woman laughed and said, 'You are the Cat who walks by himself, and all places are alike to you. You are neither a friend nor a servant. You have said it yourself. Go away and walk by yourself in all places alike.'

Then Cat pretended to be sorry and said, 'Must I never come into the Cave? Must I never sit by the warm fire? Must I never drink the warm white milk? You are very wise and very beautiful. You should not be cruel even to a Cat.'

Woman said, 'I knew I was wise, but I did not know I was beautiful. So I will make a bargain with you. If ever I say one word in your praise you may come into the Cave.'

**Technology-based composition brief 3**

**Weather**

The weather is always a talking point wherever you go. Some weather forecasters on TV and radio have been minor celebrities, and the shipping forecast which has been broadcast daily for over 100 years has achieved iconic status.

Create an original composition that makes use of a minimum of six samples of words, phrases or sounds that represent the weather.

Your composition must be 3 minutes long.

You may use one or more of the following themes:

- TV/radio weather forecasts
- interviews and documentaries about the weather including extreme weather events or storm chasers
- sounds of weather such as thunderstorms and lightning, rain, hail, or the sounds of a calm summer's day.

# Pearson Edexcel Level 3 GCE

# Music Technology

## Advanced
## Component 2: Technology-based composition

Sample assessment material for first teaching September 2017
**Logbook and authentication form**

Paper Reference
**9MT0/02**

**You do not need any other materials.**

### Instructions for Teachers

- The logbook and authentication form must be completed and presented for assessment along with the technology-based composition.
- Centres are reminded that recordings of technology-based compositions must be submitted via the online submission platform LWT.
- Centres must retain backup copies of all candidate recordings and proprietary software files for all tasks.
- All assessment materials must be sent to the examiner to arrive by 15 May.

### Information for Candidates

- The total mark for this component is 60.
- Use **black** ink or ball-point pen.
- Answer the sections in the spaces provided
  *– there may be more space than you need.*
- The sections in this booklet ask you for information which is essential for the examiner who assesses your work.
- If you do not complete the logbook and authentication form, your work may not be fully credited.
- It is not necessary to supply additional material.

*Turn over* ▶

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| Brief Chosen | |
|---|---|
| **Title of Your Composition** | |
| | |

Complete the following information about your working methods.

| DAW |
|---|
| |

Use the following tables to detail how you have created sounds for your technology-based composition.

You must also clearly indicate what settings you have changed in order for your work to gain credit. You may use diagrams or labelled screen shots to explain your sound design, but these alone will not be sufficient to explain your processes.

| Synthesis | |
|---|---|
| **Timbre/instrument name** | **designing sounds; manipulation using LFO, filter, envelopes; automation or real time control; cut-off & resonance, attack, decay, sustain, release; mapping envelopes** |
| | |
| | |
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| Sampling | |
|---|---|
| **Timbre/instrument name** | **using short audio files to develop new sonic elements; creating new meanings or effect; sample rate & bit-depth; manipulation using synthesis** |
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| Creative Effects | |
|---|---|
| **Timbre/instrument name** | **adding time-based effects or processors to modify existing sounds; control of core and detailed parameters** |
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**Teacher declaration**

I declare that the work submitted for assessment has been carried out without assistance other than that which is acceptable according to the rules of the specification.

| | | | |
|---|---|---|---|
| **Teacher name:** | | | |
| **Teacher signed:** | | **Date:** | |

**Candidate declaration**

I certify that the work submitted for this assessment is my own. I have clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.

| | | | |
|---|---|---|---|
| **Candidate signed:** | | **Date:** | |

By signing the above declaration you agree to your work being used to support professional development, online support and training of both centre-assessors and Pearson examiners. If you have any concerns please email: teachingmusic@pearson.com

If you do not wish for your work to be used by Pearson to support training and development, please tick here ☒.

Please present this completed form with the student's submission.

## Component 2: Technology-based composition – marking instructions

The overall length of the technology-based composition must be 3 minutes.

**Under length technology-based compositions**

Firstly, mark the composition as normal using the grids below.
If the composition is under-length the mark will be reduced proportionally according to the percentage that the composition is under length, using the formula below.

**Length of composition in seconds ÷ 180 seconds (minimum time allowed) x original mark = adjusted mark.**

For example: a 120 second composition with an original mark of 40 marks:
**120 seconds ÷ 180 seconds x 40 marks = 26.667 marks**
The mark awarded = **27**

Decimals will be rounded to the nearest whole number (if the number after the decimal point is 5 or more, it is rounded up to the nearest whole number).

**Over length Technology-based compositions**

Firstly, mark the composition as normal using the grids below.
If the composition is over length a mark above level 2 cannot be achieved in assessment grid 5 (response to brief).

**Technology-based composition assessment grids**

The use of technology and the structural elements of the composition must be clearly audible in the submitted recording to gain credit.

Total marks 60.

**Assessment grid 1**

Synthesis – designing own sounds, and manipulating using automation or real-time control of LFO, filter, envelopes; cut-off and resonance, attack, decay, sustain, release; mapping envelopes.

| Level | Mark | Create and edit sounds – synthesis |
|---|---|---|
| | 0 | No rewardable material. |
| **Level 1** | 1–2 | • Limited use of synthesis techniques.<br>• Synthesis use is ineffective and does not make a significant contribution to the piece overall. |
| **Level 2** | 3–4 | • Inconsistent use of synthesis techniques.<br>• Use of synthesis is evident but with some misjudgements. |
| **Level 3** | 5–6 | • Competent use of a range of synthesis techniques.<br>• Use of synthesis is evident and makes a positive contribution to the piece overall. |
| **Level 4** | 7–8 | • Excellent use of a range of synthesis techniques throughout.<br>• Synthesis has been used creatively with a high level of skill and control to develop an original sonic palette. |

**Assessment grid 2**

Sampling – using short audio files to develop new sonic elements; pitch-mapping, cutting/trimming, looping; creating new meanings or effect; sample rate and bit-depth; manipulation using sampling.

| Level | Mark | Create and edit sounds – sampling |
|---|---|---|
| | 0 | No rewardable material |
| **Level 1** | 1–2 | • Limited use of sampling techniques.<br>• Sample use is ineffective and does not make a significant contribution to the piece overall. |
| **Level 2** | 3–4 | • Inconsistent use of sampling techniques.<br>• Sample use is evident but with some misjudgements. |
| **Level 3** | 5–6 | • Competent use of a range of sampling techniques.<br>• Sample use is evident and makes a positive contribution to the piece overall. |
| **Level 4** | 7–8 | • Excellent use of a range of sampling techniques throughout.<br>• Samples have been used creatively with a high level of skill and control to develop an original sonic palette. |

**Assessment grid 3**

Creative effects – adding time-based effects or processors to modify existing sounds; control of core and detailed parameters.

| Level | Mark | Create and edit sounds – creative effects |
|---|---|---|
| | 0 | No rewardable material. |
| **Level 1** | 1–2 | • Limited use of creative effects techniques.<br>• Creative effects use is ineffective and does not make a significant contribution to the piece overall. |
| **Level 2** | 3–4 | • Inconsistent use of creative effects techniques.<br>• Creative effects use is evident but with some misjudgements. |
| **Level 3** | 5–6 | • Competent use of a range of creative effects techniques.<br>• Creative effects use is evident and makes a positive contribution to the piece overall. |
| **Level 4** | 7–8 | • Excellent use of a range of creative effects techniques throughout.<br>• Creative effects have been used imaginatively with a high level of skill and control to develop an original sonic palette. |

**Assessment grid 4**

Editing of mix must consider processing and balance to include stereo, EQ, dynamics, mix effects, master level, top and tail.

| Level | Mark | Create and edit sounds<br>**Editing of mix – control of processing and balance** |
|---|---|---|
| | 0 | No rewardable material. Parts missing or inaudible. |
| **Level 1** | 1–2 | • Unconvincing editing of mix.<br>• Handling of processing and balance is limited. |
| **Level 2** | 3–4 | • Generally convincing editing of mix.<br>• Handling of processing and balance is mostly successful. |
| **Level 3** | 5–6 | • Excellent editing of mix.<br>• All aspects of processing and balance are handled successfully throughout. |

**Assessment grid 5**

| **Marking instructions**<br>No higher than level 2 will be awarded if the submission is longer than the required length. | | |
|---|---|---|
| **Level** | **Mark** | **Structure sounds**<br>**Response to brief – sonic and musical ideas combined to reflect the requirements of the brief** |
| | 0 | No rewardable material. |
| **Level 1** | 1–2 | • Unconvincing combination of sonic and musical ideas.<br>• Sonic and musical ideas are limited in meeting the requirements of the brief. |
| **Level 2** | 3–4 | • Generally convincing combination of sonic and musical ideas.<br>• Sonic and musical ideas meet mostly the requirements of the brief. |
| **Level 3** | 5–6 | • Excellent combination of sonic and musical ideas.<br>• All aspects of the brief are successfully reflected throughout. |

**Assessment grid 6**

| **Level** | **Mark** | **Structure sounds**<br>**Style and coherence – use of stylistic conventions and control of flow and direction of ideas** |
|---|---|---|
| | 0 | No rewardable material. |
| **Level 1** | 1–2 | • Unconvincing flow and direction to the piece.<br>• Use of stylistic conventions is limited. |
| **Level 2** | 3–4 | • Generally convincing flow and direction to the piece.<br>• Use of stylistic conventions is mostly successful. |
| **Level 3** | 5–6 | • Excellent flow and direction to the piece.<br>• Stylistic conventions are used successfully throughout. |

**For the following five assessment grids, all will be assessed but only the three highest marks will be used to calculate the total.**

**Assessment grid 7**

| Level | Mark | Structure Sounds – melody |
|---|---|---|
| | 0 | No rewardable material. |
| **Level 1** | 1–2 | • Limited or repetitive melodic ideas.<br>• Melodies are underdeveloped and lack shape, fluency and direction. |
| **Level 2** | 3–4 | • Melodic ideas are developed in some places.<br>• Melodies are generally effective but may lack shape, fluency or direction. |
| **Level 3** | 5–6 | • Consistent development of melodic ideas throughout.<br>• Melodies have shape, fluency and a sense of direction. |

**Assessment grid 8**

| Level | Mark | Structure sounds – harmony |
|---|---|---|
| | 0 | No rewardable material. |
| **Level 1** | 1–2 | • Limited or misjudged harmonic ideas.<br>• Harmonies are underdeveloped and lack variety. |
| **Level 2** | 3–4 | • Harmonic ideas are mostly suitable.<br>• Harmonies are functional and show some development. |
| **Level 3** | 5–6 | • Harmonic ideas are imaginative.<br>• Harmony is well handled throughout with variety and development. |

**Assessment grid 9**

| Level | Mark | Structure sounds – rhythm |
|---|---|---|
| | 0 | No rewardable material. |
| **Level 1** | 1–2 | • Limited or repetitive rhythmic ideas.<br>• Rhythms are underdeveloped and lack shape, fluency and direction. |
| **Level 2** | 3–4 | • Rhythmic ideas are developed in some places.<br>• Rhythms are generally effective but may lack shape, fluency or direction. |
| **Level 3** | 5–6 | • Consistent development of rhythmic ideas throughout.<br>• Rhythms have shape, fluency and a sense of direction. |

**Assessment grid 10**

| Level | Mark | Structure sounds – texture |
|---|---|---|
| | 0 | No rewardable material |
| **Level 1** | 1–2 | • Limited or misjudged use of texture.<br>• Texture is underdeveloped and lacks variety. |
| **Level 2** | 3–4 | • Use of texture is mostly suitable.<br>• Texture is functional and shows some development. |
| **Level 3** | 5–6 | • Use of texture is imaginative.<br>• Texture is well handled throughout with variety and development. |

**Assessment grid 11**

| Level | Mark | Structure sounds – form and structure |
|---|---|---|
| | 0 | No rewardable material |
| **Level 1** | 1–2 | • Limited or repetitive structural ideas.<br>• Structure is underdeveloped and lacks variety. |
| **Level 2** | 3–4 | • Structural ideas are mostly suitable.<br>• Structure is functional and shows some development. |
| **Level 3** | 5–6 | • Structural ideas are imaginative.<br>• Structure is well handled throughout with variety and development. |

Write your name here

| Surname | Other names |
|---|---|
| | |

**Pearson Edexcel Level 3 GCE**

Centre Number | | | | | |

Candidate Number | | | | |

# Music Technology

## Advanced
## Component 3: Listening and analysing

Sample assessment material for first teaching September 2017
**Time: 1 hour 30 minutes**

Paper Reference
**9MT0/03**

**You must have:**
Audio recording
Headphones and individual audio player

Total Marks

### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- Access to music production software or the Internet is not permitted.

### Information

- The total mark for this paper is 75.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

*Turn over* ▶

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## SECTION A

**Answer ALL questions. Write your answers in the spaces provided.**

**Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.**

**1 Captain Beefheart and his Magic Band: *Observatory Crest***
**Track 1**

(a) Identify the keyboard instrument that plays from the start of the song.
Put a cross in the correct box.

**(1)**

- ☒ **A** Clavinet
- ☒ **B** Mellotron
- ☒ **C** Monosynth
- ☒ **D** Rhodes piano

(b) Describe the panning used on the organ at 0:50–0:54.

**(1)**

.....

(c) This song was recorded on analogue tape. Identify **two** characteristics of the recording quality heard that support this statement.

**(2)**

1 .....

2 .....

(d) This song contains multiple guitar parts played by the same musician.

Name the recording technique used to achieve this.

**(1)**

.....

(e) Identify **two** ways in which the multiple guitar parts have been differentiated in the mix between 1:50 and 2:30.

**(2)**

1 .....

2 .....

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

(f) Delay has been applied to the snare drum. Complete the table below to identify the settings used.

| Control | Setting |
|---|---|
| Pan position | **(1)** |
| Feedback % | **(1)** |
| Note length of delay time | **(1)** |

**(Total for Question 1 = 10 marks)**

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

**2 The Beatles: *Tomorrow Never Knows (stereo version)***
**Track 2**

(a) Describe the dynamic processing applied to the drum kit.

**(3)**

(b) Compare the lead vocal production heard between 0:10–0:25 with the lead vocal production heard between 1:26–1:56.

**(3)**

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

(c) Explain how analogue tape technology has been used creatively between 0:56–1:25.

**(4)**

**(Total for Question 2 = 10 marks)**

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DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

**3 Dakota Staton: *A Little You***
**Track 3**

(a) This song was recorded using 1950s technology. Explain **two** characteristics heard in this song that support this statement.

**(4)**

1 .....

.....

2 .....

.....

(b) Explain **three** processing techniques that could be applied during mastering to give this song a more contemporary sound.

**(6)**

1 .....

.....

2 .....

.....

3 .....

.....

**(Total for Question 3 = 10 marks)**

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DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

**4 Fatboy Slim: *Praise You (Radio Edit)***
**Track 4**

(a) Fatboy Slim makes use of 12-bit hardware sampling equipment with limited RAM. Explain three ways how this equipment contributes to the sonic qualities of this song.

**(6)**

(b) In addition to this digital CD version, this song was released on vinyl. Explain **two** considerations the producer would have to make when preparing the mix and master for vinyl.

**(4)**

1 .....

2 .....

**(Total for Question 4 = 10 marks)**

**TOTAL FOR SECTION A = 40 MARKS**

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## SECTION B

**Answer both Questions 5 and 6. Write your answers in the spaces provided.**

**5 Gregory Porter: *Liquid Spirit* Track 5**

**Gregory Porter: *Liquid Spirit [20 Syl Remix]* Track 6**

Compare the production techniques used in both versions.

**(15)**

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DO NOT WRITE IN THIS AREA

**(Total for Question 5 = 15 marks)**

**6 Britney Spears: *Oops!… I Did It Again***
**Track 7**

This track was produced in 1999. Evaluate the impact that digital audio workstation (DAW) technology has had on the vocal production in this track, and the wider impact DAW technology has had on vocal production since 1999.

**(20)**

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DO NOT WRITE IN THIS AREA

**(Total for Question 6 = 20 marks)**

**TOTAL FOR SECTION B = 35 MARKS**
**TOTAL FOR PAPER = 75 MARKS**

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DO NOT WRITE IN THIS AREA

## Component 3: Listening and analysis – mark scheme

**Captain Beefheart and his Magic Band: *Observatory Crest***

| Question number | Answer | Mark |
|---|---|---|
| **1(a)** | D | **(1)** |

| Question number | Answer | Mark |
|---|---|---|
| **1(b)** | Left to right. | **(1)** |

| Question number | Answer | Mark |
|---|---|---|
| **1(c)** | Any two of the following:<br>• hiss/noise (1)<br>• warm/lack of HF (1)<br>• tape saturation (1). | **(2)** |

| Question number | Answer | Mark |
|---|---|---|
| **1(d)** | Overdubbing (1)/not 'dubbing' (1). | **(1)** |

| Question number | Answer | Mark |
|---|---|---|
| **1(e)** | Any two of the following:<br>• panning positions (1)<br>• volume/balance (1)<br>• delay (1)<br>• distortion (1)<br>• EQ (1). | **(2)** |

| Question number | Answer | Mark |
|---|---|---|
| **1(f)** | **Control** / **Setting**<br>Pan position / Right (1)<br>Feedback % / 0 (1)<br>Note length of delay time / Allow values between 12th/12/triplet quaver and 16th/16/semiquaver (1) | **(3)** |

**The Beatles: *Tomorrow Never Knows***

| Question number | Answer | Mark |
|---|---|---|
| **2(a)** | Any three of the following:<br>• heavy compression (1)<br>• pumping/squashed (1)<br>• valve compression causing soft clipping (1)<br>• low threshold (1)<br>• high ratio (1)<br>• fast release (1)<br>• increased average/RMS level (1). | **(3)** |

| Question number | Answer | Mark |
|---|---|---|
| **2(b)** | Any three of the following:<br>• first section is double tracked and the second section is not (1)<br>• first section is stereo and the second section is mono (1)<br>• second section has a more restricted frequency response than the first (1)<br>• second section is distorted but the first is not (1)<br>• second section has rotary speaker/tremolo/vibrato (1)<br>• first section louder than the second (1). | **(3)** |

| Question number | Answer | Mark |
|---|---|---|
| **2(c)** | One mark is awarded for each point to a maximum of 2 marks, with a further mark for an explanation of each point, to a maximum of 4 marks.<br><br>Answers might include:<br>• tape loops/sections of tape (1) being overdubbed onto the main multitrack/master tape from another tape (1)<br>• tape recordings have been played in reverse (1) following the parts being recorded with the tape running backwards (1)<br>• tape recordings have been played at faster/slower speeds (1) than originally recorded giving a higher/lower pitch (1)<br>• the speed of the looped tape is varied manually (1)<br>the engineer pulls the tape over the tape heads at varying velocities (1)<br>• some of the sounds that were used were recorded from Mellotron (1), which has sections of tape inside (1)<br>• tape recordings are used as an 'instrumental/solo' (1) section which is very innovative for the time period (1)<br>• tape solos are in a free/irregular rhythm, (1) contrasting with the regular 2-bar drums and bass riff (1).<br><br>Accept other reasonable responses. | **(4)** |

**Dakota Staton: *A Little You***

| Question number | Answer | Mark |
|---|---|---|
| **3(a)** | One mark is awarded for each point to a maximum of 2 marks, with a further mark for an explanation of each point, to a maximum of 4 marks.<br><br>Answers might include:<br>• chamber reverb has been used on vocals/saxophone (1) which was the most popular way to have different ambience on recordings (1)<br>• the recording is mono (1) as only one track tape was available (1)<br>• no effects other than reverb (1) as they had not been invented until the 1960s (1)<br>• some of the instruments sound distant (1) due to limited number of microphones (1)<br>• surface noise present (1) due to vinyl consumer format. (1)<br>• double bass used (1) because the bass guitar was not widely used at the time. (1).<br><br>Accept other reasonable responses. | **(4)** |

| Question number | Answer | Mark |
|---|---|---|
| **3(b)** | One mark is awarded for each point to a maximum of 3 marks, with a further mark for an explanation of each point, to a maximum of 6 marks.<br><br>Answers might include:<br>• apply EQ (1) to cut low-mid muddiness/to apply a loudness curve/make bass instruments thicker (1)<br>• apply high pass filter (1) to remove plosives on vocals in breaks (1)<br>• automated de-esser/dynamic EQ/automated EQ (1) on the vocal to remove sibilance (1)<br>• mix compression/multi-band compression/brickwall limiter (1) to give a higher average level/reduce dynamic range (1)<br>• stereo widener/reverb (1) to give a simulated stereo field (1)<br>• noise reduction/audio restoration (1) to remove unwanted noise (1).<br><br>Accept other reasonable responses. | **(6)** |

**Fatboy Slim: *Praise You (Radio Edit)***

| Question number | Answer | Mark |
|---|---|---|
| **4(a)** | One mark is awarded for each point to a maximum of 3 marks, with a further mark for an explanation of each point, to a maximum of 6 marks.<br><br>Answers might include:<br>• short samples taken from other recordings (1), which sound 'retro' (1)<br>• sample stutters/chopped samples (1) adds rhythmic/glitch effect (1)<br>• limited sample time (1), leading to lots of looping/limited number of samples/reduction in sample rate (1)<br>• limited bit depth (1) reduces dynamic range/signal-to-noise ratio/resolution/adds grit distortion to samples (1)<br>• reducing sample rate (1) to give mirroring frequencies/aliasing/distortion/restricted frequency response (1).<br><br>Accept other reasonable responses. | **(6)** |

| Question number | Answer | Mark |
|---|---|---|
| **4(b)** | One mark is awarded for each point to a maximum of 2 marks, with a further mark for an explanation of each point, to a maximum of 4 marks.<br><br>Answers might include:<br>• use a de-esser/EQ/reduce sibilance on the vocals (1) to avoid distortion on vinyl (1)<br>• use a high pass filter/reduce low frequency content/rumble (1) to avoid the needle skipping (1)<br>• amount of mix compression/limiting (1) to achieve the correct master volume (1).<br><br>Accept other reasonable responses. | **(4)** |

**Gregory Porter: *Liquid Spirit***
**Gregory Porter: *Liquid Spirit [20 Syl Remix]***

| Question number | Indicative content |
|---|---|
| **5** | **AO3 (5 marks)/AO4 (10 marks)**<br><br>**Marking instructions**<br>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.<br>Responses that demonstrate **only** AO3 without any AO4 should be awarded marks as follows:<br>• Level 1 AO3 performance: 1 mark<br>• Level 2 AO3 performance: 2 marks<br>• Level 3 AO3 performance: 3 marks<br>• Level 4 AO3 performance: 4 marks<br>• Level 5 AO3 performance: 5 marks.<br><br>**Indicative content guidance**<br>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited.<br>Relevant points may include:<br><br>AO3<br>Capture<br>• Original is captured through mics and recorded live.<br>• Remix is sequenced in a DAW.<br>• Remix takes stems from the original as the basis for the track.<br>• The remix has lots of vocal layers taken from the original giving the impression of overdubbing.<br>• Piano is used in the remix but it is sequenced and isn't sampled from the original.<br>Sampling<br>• No sampling in the original, all acoustic instruments.<br>• The samples in the remix are made from stems from the original.<br>• Vocal samples are looped and stuttered in places.<br>• Vocals from the original are also 'scratched'.<br>• Drums are looped from the original.<br>Synthesis<br>• No synthesis in the original; all acoustic instruments.<br>• Synths replace the horn section in places from the original.<br>• Synth bassline replaces the double bass from the original.<br>Effects<br>• There is limited use of effects in the original.<br>• Vocals have the most processing on them with reverb and compression in the original.<br>• Delay is used most prominently on the vocals in the remix.<br>• Stereo widening/ADT is applied to the vocals in places in the remix.<br>• Automated filters are used in the remix. |

| Question number | Indicative content |
|---|---|
| **5 (contd.)** | AO4<br>• The original preserves the 'live' feel by using only acoustic instruments, minimal overdubs, minimal processing.<br>• On the whole, the techniques and processing used in the electronic remix would not be appropriate for the original jazz track as they are working in different styles.<br>• The remix is sequenced and makes use of heavily edited samples from the original, adding more layers, giving a bigger and more contemporary feel.<br>• In the remix, vocal fragments are sampled to provide new harmony and rhythm, and retaining continuity with the original.<br>• In the remix, the looped drum sample from the original has a rising cutoff on the low pass filter applied to it to give a sense of build.<br>• The looped drum samples from the original serve as an additional percussion track, underneath the sequenced drums.<br>• The sequenced drums in the remix have been heavily compressed, ensuring that the transients cut through the mix, unlike the original drums.<br>• Short delay/stereo widening is applied to the 'clap your hands now' chorus vocal line to give a wider image in the remix.<br>• In the remix, vocals from the original are also 'scratched' giving further manipulation of samples.<br>• Pitch bend used on the synth bass, which does not happen to the same degree in the original, with slides on the double bass.<br>• Compression is more subtle in the orignal version and far more prominent in the remix, giving a punchy dynamic/pumping.<br>• Side-chain compression on the synth pad triggered by the kick is used in the remix during the breakdown section, which is stylistic to electronic music and provides rhythmic movement. |

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | No rewardable material. |
| Level 1 | 1–3 | • Demonstrates limited knowledge and understanding of production techniques used, some of which may be inaccurate or irrelevant (AO3).<br>• Gives limited analysis and deconstruction of production techniques used with little attempt at chains of reasoning (AO4).<br>• Makes limited comparisons between the two recordings, with little or no conclusion (AO4). |
| Level 2 | 4–6 | • Demonstrates some knowledge and understanding of production techniques used, which is occasionally relevant but may include some inaccuracies (AO3).<br>• Gives some analysis and deconstruction of production techniques used with simplistic chains of reasoning (AO4).<br>• Makes some comparisons between the two recordings, reaching unsupported conclusions (AO4). |
| Level 3 | 7–9 | • Demonstrates clear knowledge and understanding of production techniques used, which is mostly relevant and accurate (AO3).<br>• Gives clear analysis and deconstruction of production techniques used, with competent chains of reasoning (AO4).<br>• Makes clear comparisons between the two recordings, reaching partially supported conclusions (AO4). |
| Level 4 | 10–12 | • Demonstrates detailed knowledge and understanding of production techniques used, which is relevant and accurate (AO3).<br>• Gives detailed and accurate analysis and deconstruction of production techniques used, with logical chains of reasoning on occasion (AO4).<br>• Makes detailed comparisons between the two recordings, reaching well supported conclusions (AO4). |
| Level 5 | 13–15 | • Demonstrates sophisticated and accurate knowledge of production techniques used throughout (AO3).<br>• Gives sophisticated and accurate analysis and deconstruction of production techniques used, with logical chains of reasoning throughout (AO4).<br>• Makes detailed comparisons between the two recordings, reaching sophisticated conclusions (AO4). |

**Britney Spears: *Oops!... I Did It Again***

| Question number | Indicative content |
|---|---|
| 6 | **AO3 (5 marks)/AO4 (15 marks)**<br><br>**Marking instructions**<br>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.<br>Responses that demonstrate **only** AO3 without any AO4 should be awarded marks as follows:<br>• Level 1 AO3 performance: 1 mark<br>• Level 2 AO3 performance: 2 marks<br>• Level 3 AO3 performance: 3 marks<br>• Level 4 AO3 performance: 4 marks<br>• Level 5 AO3 performance: 5 marks.<br><br>**Indicative content guidance**<br>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited.<br>Relevant points may include:<br>(Candidates must connect the DAW production techniques on this track with the wider impact they have had on music production.)<br><br>AO3<br>• Copy/pasting of vocal edits.<br>• Reversing of vocals.<br>• Extensive use of vocal stacks/overdubs.<br>• Auto-Tune on vocals.<br>• Volume automation.<br>• Timed delay on vocals.<br>• Minimal noise/hiss on vocal takes.<br><br>AO4<br>• Copy/pasting of vocal 'hums' and breath noises used as effects/rhythmic elements.<br>• Can easily place consecutive vocal samples in opposing pan positions and with varied effects (e.g. filtering/telephone effect) – techniques widely used as a 'hook' in pop hits to hold the listener's attention.<br>• Reversing vocal breaths as a transition effect, e.g. 1:13.<br>• Vocal editing is a lot faster so therefore production time and associated costs can be lower.<br>• Vocal editing can be so precise that pitch can be corrected.<br>• Rhythm correction of audio is so precise that lead and backing vocals are perfectly matched.<br>• Reversing vocals is extremely easy and allows producers to create new and interesting timbres using audio.<br>• Ability to record multiple (virtually unlimited) takes and then easily compile together. |

| Question number | Indicative content |
|---|---|
| **6 (contd.)** | • Auto-Tune was initially used as a corrective tool but has since been used as a creative tool, e.g. T-Pain, Kanye West.<br>• Pitch/rhythm correction has led to the rise of 'factory produced' music featuring performers with limited musical talent.<br>• Pitch correction alogrithms are so advanced that polyphonic audio can now be repitched, for example recorded vocal ensembles can now be corrected.<br>• Artists have reacted in opposition to Auto-Tune and produced purposefully unpolished vocals, e.g. Jay-Z: *D.O.A.*<br>• Volume automation/heavy compression used on vocals to bring up the signature 'vocal fry' inflection.<br>• Timed delay on vocals can be synced to note value/bpm of the project giving a tighter rhythm.<br>• There is minimal noise/hiss because audio can be edited tightly giving a more polished production.<br>• All editing is non-destructive which has both advantages such as being able to 'undo' and disadvantages such as encouraging indecisiveness.<br>• The polished vocal production that DAW technology can achieve has shifted consumers' expectations of recorded music.<br>• Producers are likely to over-use new technologies, which can have both positive and negative outcomes. |

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | No rewardable material. |
| Level 1 | 1–4 | • Demonstrates limited knowledge and understanding of production techniques/technology used, some of which may be inaccurate or irrelevant (AO3).<br>• Applies limited analysis and deconstruction of production techniques/technology used in the recording with little attempt at chains of reasoning (AO4).<br>• Makes limited connections between the production techniques/technology used in the recording and their wider impact (AO4).<br>• Makes limited evaluative and/or critical judgements about the wider impact of the production techniques/technology used in the recording (AO4). |
| Level 2 | 5–8 | • Demonstrates knowledge and understanding of production techniques/technology used, which are occasionally relevant but may include some inaccuracies (AO3).<br>• Applies some analysis and deconstruction of production techniques/technology used in the recording, with simplistic chains of reasoning (AO4).<br>• Makes some connections between the production techniques/technology used in the recording and their wider impact (AO4).<br>• Makes some evaluative and/or critical judgements about the wider impact of the production techniques/technology used in the recording (AO4). |
| Level 3 | 9–12 | • Demonstrates clear knowledge and understanding of production techniques/technology used, which are mostly relevant and accurate (AO3).<br>• Applies clear analysis and deconstruction of production techniques/technology used in the recording which is mostly detailed, with competent chains of reasoning (AO4).<br>• Makes valid connections between the production techniques/technology used in the recording and their wider impact (AO4).<br>• Makes clear evaluative and critical judgements about the wider impact of the production techniques/technology used in the recording (AO4). |
| Level 4 | 13–16 | • Demonstrates detailed knowledge and understanding of production techniques/technology used, which are relevant and accurate (AO3)<br>• Applies detailed and accurate analysis and deconstruction of production techniques/technology used in the recording, with logical chains of reasoning on occasion (AO4).<br>• Makes detailed and valid connections between the production techniques/technology used in the recording and their wider impact (AO4).<br>• Makes detailed and valid evaluative and critical judgements about the wider impact of the production techniques/technology used in the recording (AO4). |

| Level | Mark | Descriptor |
|---|---|---|
| Level 5 | 17–20 | • Demonstrates sophisticated and accurate knowledge and understanding of production techniques/technology used throughout (AO3).<br>• Applies sophisticated and accurate analysis and deconstruction of production techniques/technology used in the recording and logical chains of reasoning throughout (AO4).<br>• Makes sophisticated and valid connections between the production techniques/technology used in the recording and their wider impact (AO4).<br>• Makes sophisticated and valid evaluative and critical judgements about the wider impact of the production techniques/technology used in the recording (AO4). |

Write your name here

| Surname | Other names |
|---|---|
| | |

**Pearson Edexcel Level 3 GCE**

Centre Number | | | | | |

Candidate Number | | | | |

# Music Technology

## Advanced
## Component 4: Producing and analysing

Sample assessment material for first teaching September 2017

**Time: 2 hours 15 minutes (plus 10 minutes setting up time)**

Paper Reference **9MT0/04**

**You must have:** Audio recording containing component audio files, stereo digital audio file format for finished tasks, headphones or monitor speakers, computer workstation, music production software, Figure 1 for Question 6 (enclosed)

Total Marks

### Setting up time

- Open a new project in your DAW using 16 bit/44.1kHz sample rate.
- Save the project as **'comp4_your candidate number' (e.g. comp4_1234)** in the folder designated by your centre.
- Set the metronome to **131 bpm**.
- Import "drums.wav" to a new track in your DAW, aligned with the beginning of bar 1.
- Ensure that the drums are audible and play in time with the metronome. The drums begin in bar 2.
- You must not open the paper until instructed to do so by the invigilator.

### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- Save your audio files for Questions 1, 3, 4 and 5 within the 2 hour 15 minute examination time.
- You must ensure that the left and right earpieces of your headphones are worn correctly.
- Access to a calculator or calculator software is not permitted.
- Access to the internet or local network is **not** permitted.

### Information

- The total mark for this paper is 105.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

*Turn over* ▶

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## SECTION A

**Answer ALL questions. Write your answers in the spaces provided.**

**Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.**

**Question 1 is about the drum part.**

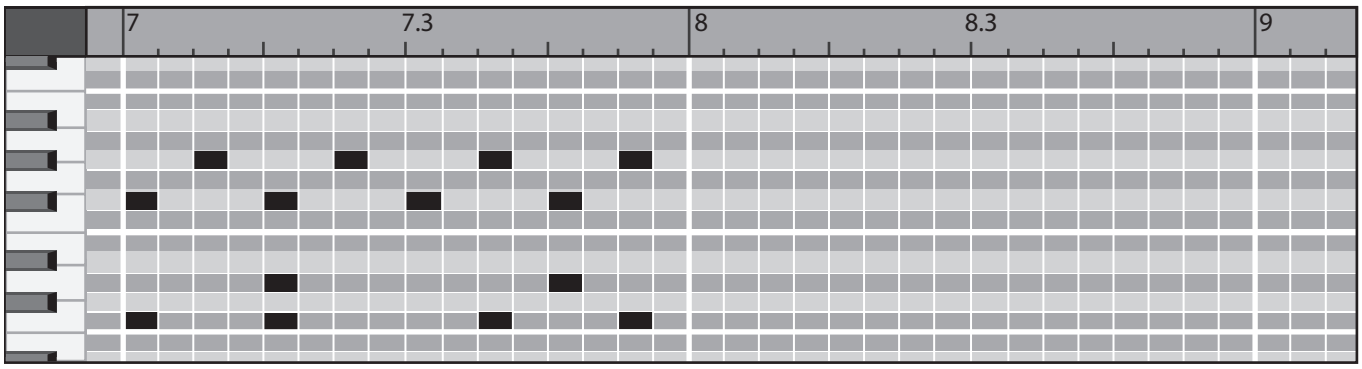
**1** (a) Identify the quantise value used in bars 2–8. Put a cross in the correct box.

**(1)**

- ☒ **A** 1/32
- ☒ **B** 1/16
- ☒ **C** 1/12
- ☒ **D** 1/8

(b) Draw the drum part for bar 8 on the piano roll editor below.

**(4)**




(c) In bars 10–17 the drum part has an intrusive resonance. Remove this resonance.

**(4)**

**Bounce/export the completed drum part as a single 16 bit/44.1kHz stereo.wav file to the designated folder on your computer.**

**Name it 'q1_ your candidate number' (e.g. *q1_1234*).**

**(Total for Question 1 = 9 marks)**

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**Question 2 is about the synth riff part.**

**2** Import "synth riff.wav" to a new track in your DAW. The beginning of this audio track should be aligned with the start of bar 1. The synthesiser riff begins playing at the start of bar 2.

(a) Describe the pitch bend in bar 3.

**(2)**

(b) There is a stereo delay on the synth riff from bar 6. Describe the settings that give stereo width to this delay.

**(2)**

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(c) Listen to bars 19–26

(i) Identify the filter used.

**(1)**

.....

(ii) Describe what happens to the cutoff frequency throughout bars 19–26.

**(1)**

.....

(iii) On the blank graph below draw and label the filter.

**(5)**

**(Total for Question 2 = 11 marks)**

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**Question 3 is about the chords part.**

**3** Import the MIDI file "chords.mid" to a new track in your DAW. Align the part so that the chords begin playing at bar 10.

Import "chords example.wav" to a new track in your DAW. This file illustrates how bars 10–11 of the chords should sound. You should not use this audio in your final mix.

(a) Create a synthesiser sound that matches the timbre 'chords example.wav'.

- Ensure that the octave matches the example.
- Use a saw wave without any added effects.
- Ensure that the filtering matches the example.
- Copy the envelope used in the example.

**(5)**

(b) Complete the table below to give the velocity in decimal and in binary of each note in the second chord of bar 26.

| Pitch | Velocity in decimal | Velocity in binary |
|---|---|---|
| D5 | 98 | 1100010 |
| F#5 | **(1)** | **(1)** |
| B5 | **(1)** | **(1)** |

(c) Two notes are played in bars 27–28. Create a smooth, sustained slide in pitch between these notes.

**(2)**

**Bounce/export the completed chords part as a single 16 bit/44.1kHz stereo.wav file to the designated folder on your computer.**

**Name it 'q3_ your candidate number' (e.g. *q3_1234*).**

**(Total for Question 3 = 11 marks)**

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**Question 4 is about the vocal part.**

**4** Import "vocal main.wav" to a new track in your DAW. This track is a complete vocal part. Ensure that the beginning of this audio track is aligned with the start of bar 1. The vocal begins during the fourth beat of bar 2.

(a) State why a gate has been applied to the vocal part.

**(1)**

.....

(b) The graph below shows the waveform in bar 9.

(i) Identify **two** features of the graph that show that this is a vocal waveform.

**(2)**

1 .....

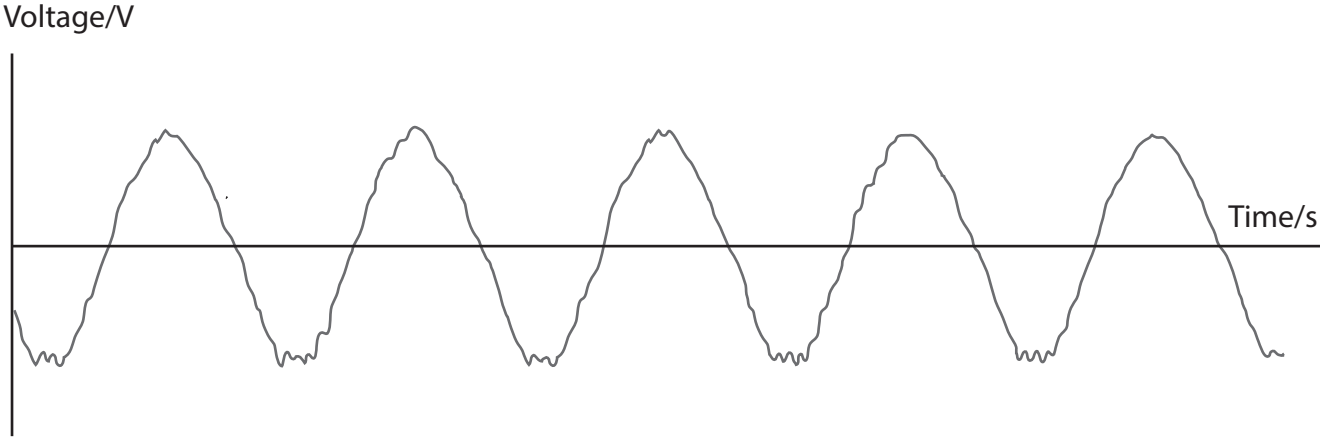
2 .....

(ii) Label the amplitude

**(1)**

(iii) Label the period

**(1)**




(iv) Identify the pitch of the vocal in bar 9

**(1)**

.....

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(v) The frequency of A below middle C is 220Hz. Calculate the frequency of the vocal in bar 9. Show your working.

**(2)**

frequency ..... Hz

(c) The vocal was digitally recorded using a sample rate of 44.1kHz. Explain why, according to Nyquist's theorem, this recording quality is sufficient to record this vocal performance.

**(4)**

.....

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(d) The "vocal main.wav" file has some intrusive noise in bars 21–22. Import "vocal clean.wav" into your DAW. Use this to remove the noise from the vocal.

**(4)**

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(e) Create a harmonised backing vocal track by re-tuning material taken from the lead vocal in bars 33–36.

(i) Re-tune "always" and "forever" to D below the lead vocal

**(3)**

(ii) Re-tune "stop" to E below the lead vocal.

**(3)**

(f) For this vocal recording, explain how the compression parameters would be set to keep the volume of the vocal consistent in the context of the mix.

**(8)**

**Bounce/export the completed vocal parts as a single 16 bit/44.1kHz stereo.wav file to the designated folder on your computer.**

**Name it 'q4_ your candidate number' (e.g. *q4_1234*).**

**(Total for Question 4 = 30 marks)**

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**5** You should now have the following tracks in your DAW: drums, synth riff, chords, lead vocal and backing vocal.

Follow the instructions below to produce a final stereo mix.

(a) Compress the lead vocal and backing vocals.

- Ensure that all parts of the vocal can be heard above the other parts.
- Ensure that the dynamics of the performance are level throughout and do not jump out of the mix.

**(3)**

(b) Apply an automated filter to the vocal.

- Only the word "you" and its repeat in bars 26–28 should be affected.
- Use a high pass filter with a steep roll-off.
- Automate the filter so that the vocal smoothly becomes thinner.

**(3)**

(c) Apply stereo double tracking to the backing vocals.

- The double tracking should be hard panned.

**(3)**

(d) Listen to the effect on the 'ahh' vocal in bars 2–5. Recreate the same effect on the 'ahh' in bar 7.

**(6)**

(e) Apply reverb to all parts to give a sense of ambience across the mix.

**(3)**

(f) Balance the levels of the mix.

**(3)**

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(g) Produce a final stereo mix.

- Ensure that the mix output is at as high a level as possible.
- It should be free from distortion.
- Do not limit or compress the mix output.
- Ensure that the beginning of the music and the delay repeats are not cut off.
- Ensure that silences at the beginning and end do not exceed one second.

**(3)**

**Bounce/export the completed mix as a single 16 bit/44.1kHz stereo.wav file to the designated folder on your computer.**

**Name it 'q5_ your candidate number' (e.g. *q5_1234*).**

**(Total for Question 5 = 24 marks)**

**TOTAL FOR SECTION A = 85 MARKS**

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## SECTION B

**Answer Question 6. Write your answer in the space provided.**

**6** Figure 1 shows a mix of a drum kit in a rock recording. The final mix will also include bass guitar, distorted electric guitar and vocals.

Evaluate the suitability of the routing and plug-in settings for a rock recording.

**(20)**

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**(Total for Question 6 = 20 marks)**

**TOTAL FOR SECTION B = 20 MARKS**
**TOTAL FOR PAPER = 105 MARKS**

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# Pearson Edexcel Level 3 GCE

# Music Technology

## Advanced
## Component 4: Producing and analysing

Sample assessment material for first teaching September 2017
**Figure 1 for Question 6**

Paper Reference
**9MT0/04**

**Do not return Figure 1 with the question paper.**

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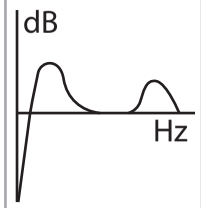
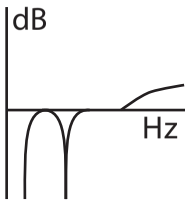
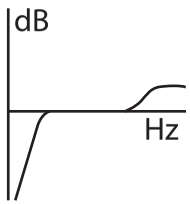
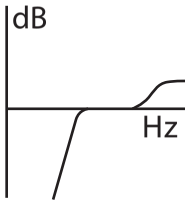
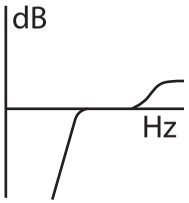
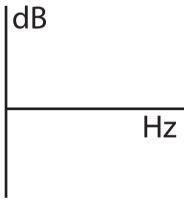
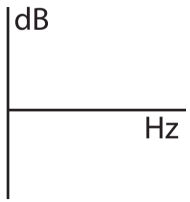
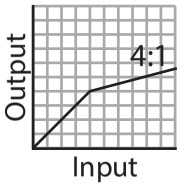
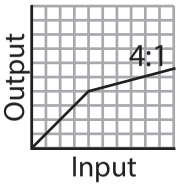
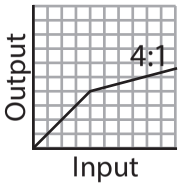
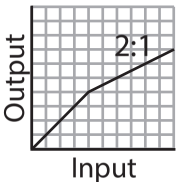
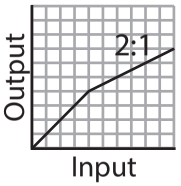
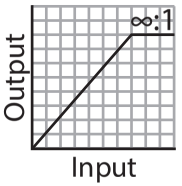
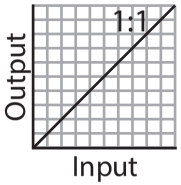
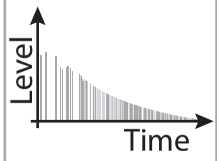
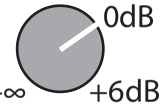
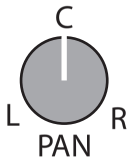
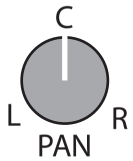
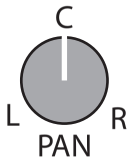
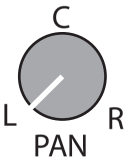
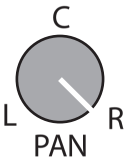
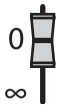
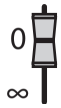
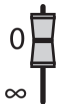
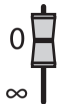
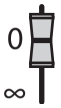
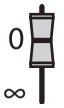
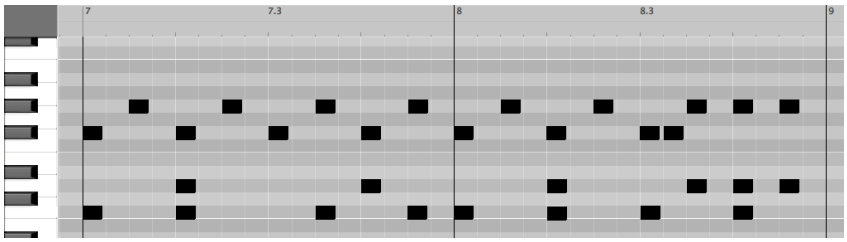
**Figure 1**

| | Mono | Mono | Mono | Mono | Mono | Stereo | Stereo | Stereo |
|---|---|---|---|---|---|---|---|---|
| **EQ** |  |  |  |  |  |  |  | |
| **Compression** |  |  |  |  |  |  |  | |
| **Reverb** | | | | | | |  | |
| **Aux1 Send** | | | | | |  | | |
| **Pan** |  |  |  |  |  | | | |
| **Output** | Drum Subgroup | Drum Subgroup | Drum Subgroup | Drum Subgroup | Drum Subgroup | Output L-R | Output L-R | |
| **Fader** |  |  |  | |  |  |  | |
| | Kick | Snare top | Snare bottom | Overhead L | Overhead R | Drum Subgroup | Aux 1 | Output |

## Component 4: Producing and analysing – mark scheme

| Question Number | Answer | Mark |
|---|---|---|
| 1(a) | B | (1) |

| Question Number | Answer | Mark |
|---|---|---|
| 1(b) | 1 mark for each correct rhythm:<br>• kick on C1<br>• snare on D1<br>• closed hi-hat on F#<br>• open hi-hat on G#<br>  <br> | (4) |

| Question Number | Answer | Mark |
|---|---|---|
| 1(c) | | (4) |

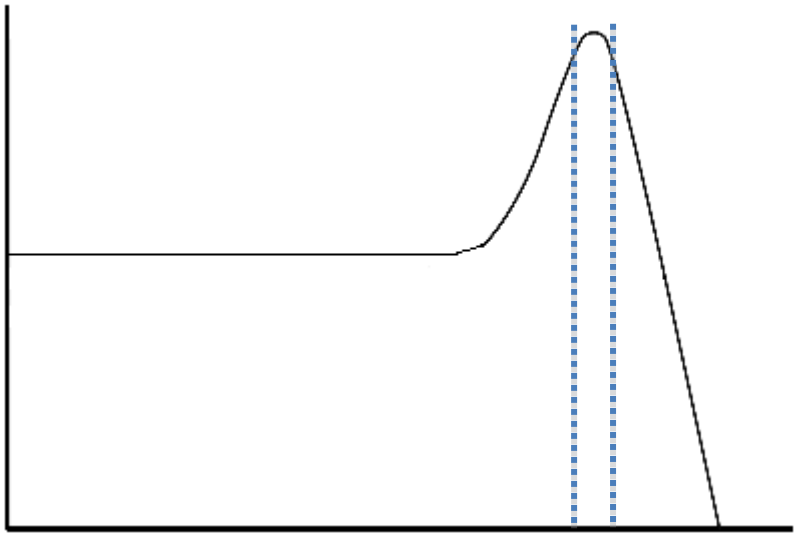
| Mark | Removing drum resonance. |
|---|---|
| 4 | Narrow Q EQ has been used to fully remove the resonance. |
| 3 | EQ has been used to fully remove the resonance but other frequencies are affected.<br>OR<br>EQ has been used to partially remove the resonance. |
| 2 | EQ has been used to partially remove the resonance and other frequencies are affected. |
| 1 | Intrusive EQ. |
| 0 | No clearly audible EQ present. |

| Question Number | Answer | Mark |
|---|---|---|
| 2(a) | Any two of the following:<br>• bends down (1) twice/on beats 3 & 4/just before beats 3 and 4 (1).<br>• pitch bend range is an octave (1). | (2) |

| Question Number | Answer | Mark |
|---|---|---|
| 2(b) | Delay time (1) is different in left and right channel (1). | (2) |

| Question Number | Answer | Mark |
|---|---|---|
| **2(c)(i)** | Low Pass Filter. | **(1)** |

| Question Number | Answer | Mark |
|---|---|---|
| **2(c)(ii)** | Increases. | **(1)** |

| Question Number | Answer | Mark |
|---|---|---|
| **2(c)(iii)** | y-axis: amplitude/gain/volume/magnitude/dB (1)<br>x-axis: frequency/Hz/kHz/spectrum (1)<br><br>[Ignore capitalisation for both] Apply SONC<br><br>LPF (1)<br>Resonance peak (1)<br><br>Cutoff frequency: Accept anywhere in the range shown by the dotted lines. (1)<br><br>  | **(5)** |

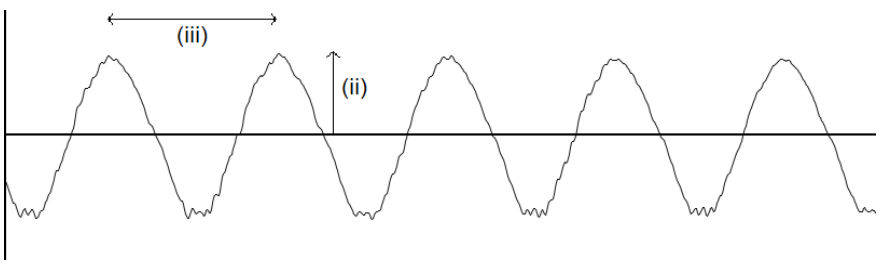
<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>3(a)</td><td>"Chords example" was 0:15 (or an equivalent location for candidate responses with more/less silence at the start of the track).<br><br>
<table>
<tr><th>"Chords" timbre</th></tr>
<tr><td>Correct octave and pitches<br>AND<br>Saw wave timbre. Allow square or pulse<br>AND<br>a polysynth (1)<br>Award 0 if any FX are added.</td></tr>
<tr><td>LPF with no resonance (1)</td></tr>
<tr><td>Slow attack time of the cutoff frequency (1)</td></tr>
<tr><td>Zero attack time for the amplitude envelope (1) so that the chords don't start from silence.</td></tr>
<tr><td>Zero release. (1)</td></tr>
<tr><td>If "chords" is not soloed, has effects, or the metronome is switched on, assess what can be heard clearly.</td></tr>
</table></td><td>(5)</td></tr>
</table>

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>3(b)</td><td>
<table>
<tr><th>Pitch</th><th>Velocity in decimal</th><th>Velocity in binary</th></tr>
<tr><td>D5</td><td>98</td><td>1100010</td></tr>
<tr><td>F#5</td><td>99 (1)</td><td>1100011 (1)</td></tr>
<tr><td>B5</td><td>43 (1)</td><td>101011 (1)</td></tr>
</table>
Allow any preceding 0s.</td><td>(4)</td></tr>
</table>

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>3(c)</td><td>Listen to the whole of the “chords” part. Check the fill just before the chorus starts at 0:45 (or an equivalent location for candidate responses with more/less silence at the start of the track).<br><br>
<table>
<tr><th>Mark</th><th>Adding a slide</th></tr>
<tr><td>2</td><td>There is a sustained note from bar 27, beat 1 to the end of bar 28 that slides smoothly up 1 octave.</td></tr>
<tr><td>1</td><td>There is a note longer than a quaver that is long enough to assess some kind of upward bend in pitch during bar 27 and/or 28.<br>OR<br>Pitch bend left on.<br>OR<br>Audible glitch.</td></tr>
<tr><td>0</td><td>There is no upward bend in pitch during bar 27 or 28.</td></tr>
<tr><td></td><td>If “chords” is not soloed then assess what you can hear clearly.</td></tr>
</table></td><td>(2)</td></tr>
</table>

| Question Number | Answer | Mark |
|---|---|---|
| **4(a)** | Remove noise. | **(1)** |

| Question Number | Answer | Mark |
|---|---|---|
| **4(b)(i)** | Any valid description of:<br>• periodic (1)<br>• some irregularities (1)<br>• close to sine wave because softly sung (1). | **(2)** |

| Question Number | Answer | Mark |
|---|---|---|
| **4(b)(ii) and (iii)** |  | **(1)+ (1)** |

| Question Number | Answer | Mark |
|---|---|---|
| **4(b)(iv)** | E | **(1)** |

| Question Number | Answer | Mark |
|---|---|---|
| **4(b)(v)** | 220*1.5 (1) [NB: allow error carried forward from part iv]<br>330(Hz) (1)<br><br>Award 2 marks for 330 with no working. | **(2)** |

| Question Number | Answer | Mark |
|---|---|---|
| **4(c)** | Any four of the following:<br>• the human hearing range is up to 20kHz (1)<br>• Nyquist's theorem states that the sample rate must be at least double the highest frequency in the source audio (1)<br>• 44.1kHz is more than double 20kHz (1)<br>• needs a high sample rate to capture the brightness of the vocal (1)<br>• the sample rate wouldn't need to be converted when mastering for audio recording (1). | **(4)** |

| Question Number | Answer | Mark |
|---|---|---|
| **4(d)** | Listen to 21-22,"*soul from needing you*". The edit point will be +/- 1s in "*you*". Approx. 0:37 | **(4)** |

| Mark | Preparation of vocal track — Removing unwanted noises |
|---|---|
| 4 | Edit point is <= "q4 4marks.wav" |
| 3 | The edit is in time, but a click, glitch or phasing can be heard which is > "q4 4marks.wav" and < "q4 2 marks.wav" |
| 2 | The edit is in time, but click >= "q4 2 marks" is present |
| 1 | The edit is more than a semi-quaver out of time and/or unmusical. |
| 0 | No attempt at editing - the noise on the vocal is still audible. |
| | If the vocal is not soloed, has effects, or metronome is switched on, then assess what can be heard clearly to max 2. |

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>4(e)(i)</td><td>Listen to “Always”, “forever” after 0:56.<br><br><table><tr><th>Mark</th><th>Creating a backing vocal for “always” and “forever”</th></tr><tr><td>3</td><td>The pitch is D below the lead vocal. The vocal is in time.<br>The lead vocal remains unaffected.</td></tr><tr><td>2</td><td>The lead vocal remains unaffected and the pitch is D but:<br>in the wrong octave<br>OR<br>slightly out of time<br>OR<br>Intrusive change of tone/formant</td></tr><tr><td>1</td><td>There is a backing vocal of a different pitch to the lead vocal but:<br>the wrong pitch<br>OR<br>the backing vocal is more than a semiquaver out of time<br>OR<br>the lead vocal is affected in some way<br>OR<br>other words harmonised</td></tr><tr><td>0</td><td>No backing vocal present</td></tr><tr><td></td><td>If the vocal is not soloed, has effects, or metronome is switched on, then assess what can be heard clearly.</td></tr></table></td><td>(3)</td></tr>
</table>

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>4(e)(ii)</td><td>Listen to “stop” after 0:56.<br><br><table><tr><th>Mark</th><th>Creating a backing vocal for “stop”</th></tr><tr><td>3</td><td>The pitch is E below the lead vocal. The vocal is in time.<br>The lead vocal remains unaffected.</td></tr><tr><td>2</td><td>The lead vocal remains unaffected and the pitch is E but:<br>in the wrong octave<br>OR<br>slightly out of time.</td></tr><tr><td>1</td><td>There is a backing vocal of a different pitch to the lead vocal but:<br>the wrong pitch<br>OR<br>the backing vocal is more than a semiquaver out of time<br>OR<br>the lead vocal is affected in some way<br>OR<br>other words harmonised</td></tr><tr><td>0</td><td>No backing vocal present</td></tr><tr><td></td><td>If the vocal is not soloed, has effects, or metronome is switched on, then assess what can be heard clearly.</td></tr></table></td><td>(3)</td></tr>
</table>

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>4(f)</td><td>1 mark for each parameter setting to a maximum of 4 (AO3). 1 mark for each explanation to a maximum of 4 (AO4).<br><br>
<table>
<tr><th>AO3</th><th>AO4</th></tr>
<tr><td>Low threshold/<14dB-34dB (1)</td><td>Because there are some quiet phrases, e.g. bar 9 (1)</td></tr>
<tr><td>High ratio/>4:1 (1)</td><td>Because there are loud phrases in the chorus, e.g. “I wont stop” in bar 29–30 (1)</td></tr>
<tr><td>High gain make-up (1)</td><td>Because there will be a lot of gain reduction on loud phrases (1)</td></tr>
<tr><td>Soft knee (1)</td><td>Because of high ratio/to make sound more natural (1)</td></tr>
<tr><td>Fast attack/0ms-10ms/ peak not RMS (1)</td><td>To prevent transients being too loud/because of the high amount of gain reduction (1)</td></tr>
<tr><td>Fast/medium release/ 5ms-100ms (1)</td><td>To ensure that the volume is consistently sustained across each word that is compressed (1)</td></tr>
</table>
</td><td>(8)</td></tr>
</table>

Note for Question 5: if candidates apply dynamics/EQ/FX/stereo not asked for, they cannot gain full credit in (a), (b), (c) and (d).

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>5(a)</td><td>
<table>
<tr><td></td><td>Management and control of the vocal dynamics<br>This is best assessed in the intro and at 0:50 where there is a wide dynamic difference between each phrase.</td></tr>
<tr><td>3</td><td>All of the vocal is clearly audible, especially in the intro and at 1:02. Overall, the dynamic range is <= “q5 full marks.wav”.</td></tr>
<tr><td>2</td><td>All of the vocal is clearly audible, especially in the intro and at 1:02. Overall, the dynamic range is <= “q5 full marks.wav” but transients are loud because the attack time too long on compressor</td></tr>
<tr><td>1</td><td>The vocals have audible compression and the dynamic range is reduced compared with “q5 unmixed.wav”, however some parts of the vocal are partially masked / uneven level<br>OR<br>Clearly audible volume automation</td></tr>
<tr><td>0</td><td>No compression can be identified on the vocal<br>OR<br>No mix present on audio recording.</td></tr>
</table>
</td><td>(3)</td></tr>
</table>

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>5(b)</td><td>
<table>
<tr><th></th><th>Management and control of vocal filtering</th></tr>
<tr><td>3</td><td>The cutoff frequency of the high pass filter smoothly rises throughout the word “you” in bars 26–28.</td></tr>
<tr><td>2</td><td>A variable high pass filter is used to create some sense of fade but:<br>There could be an audible join between sections.<br>OR<br>Fade too fast or too slow so doesn’t cover the whole of both “you”.</td></tr>
<tr><td>1</td><td>A jerky or static high pass filter or high-shelving EQ is used that<br>creates a noticeable contrast on the word “you”<br>OR<br>Other parts of the vocals are affected by the filtering.<br>OR<br>Other instruments are filtered, e.g. the candidate has also filtered the drums<br>OR<br>Wrong filter type</td></tr>
<tr><td>0</td><td>There is no clearly audible filtering or high-shelving EQ on the vocals.<br>OR<br>No mix present on audio recording.</td></tr>
</table>
</td><td>(3)</td></tr>
</table>

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>5(c)</td><td>
<table>
<tr><th></th><th>Management and control of double tracking and pan of the backing vocals</th></tr>
<tr><td>3</td><td>Excellent double tracking effect which sounds like two hard panned vocal parts.</td></tr>
<tr><td>2</td><td>A wide stereo effect has been applied but it sounds like one processed vocal.</td></tr>
<tr><td>1</td><td>A narrow stereo effect has been applied but it sounds like one processed vocal<br>OR<br>Vocal is double-tracked in mono/phases intrusively/<br>delay time too long/has delay feedback.<br>OR<br>Panning affects other instruments/lead vox.</td></tr>
<tr><td>0</td><td>No double tracking effect can be heard on the backing vocals.<br>OR<br>No mix present on audio recording.</td></tr>
</table>
</td><td>(3)</td></tr>
</table>

| Question Number | Answer | Mark |
|---|---|---|
| 5(d) | • Delay (1)<br>• Delay time is minim and correct phrase (1)<br>• Feedback causes delay to last so it fades over first phrase of verse and the 'mmm' has no delay (1)<br>• EQ is used in some way on the delay and not the dry signal (1)<br>• EQ on delay is resonant in the mid range (1)<br>• EQ on each delay repeat becomes more resonant (1)<br><br>Max 1 if EQ or delay affects other tracks or other sections of the vocal. | (6) |

| Question Number | Answer | Mark |
|---|---|---|
| 5(e) | | (3) |

| | Application of reverb |
|---|---|
| 3 | The chords have the most reverb; the bass and drums has the least. Overall reverb is less than 'q5 full marks.wav'. |
| 2 | Overall reverb is slightly more than 'task 3.wav'.<br>OR<br>Use of reverb with some misjudgements.<br>OR<br>Reverb bypasses in some parts of the track. E.g. dry vocal during the filtered bridge. |
| 1 | Serious misjudgement on 1 track or more.<br>AND/OR<br>Wrong effect added on any track. |
| 0 | No evidence of reverb being applied to any track.<br>OR<br>No mix present on audio recording. |

| Question Number | Answer | Mark |
|---|---|---|
| 5(f) | | (3) |

| | Balance and blend |
|---|---|
| 3 | Balanced and blended across all parts of the mix. Vocals sit on top of mix. |
| 2 | Most tracks are balanced with some masking. A few misjudgements, e.g. chords louder than the vocal; or drums quieter than synth |
| 1 | Balanced so that one track is barely audible.<br>OR<br>Not all tracks present/additional tracks. |
| 0 | No mix on audio recording<br>OR<br>Only a single track present. |
| | Ignore any previously assessed filtering. |

| Question Number | Answer | Mark |
|---|---|---|
| 5(g) | | (3) |

| | Presentation of mix |
|---|---|
| 3 | Beginning and end of mix does not cut out music or delay tail. The beginning should have 0–1 seconds of silence before the music starts. The mix output should be near normalised with no distortion. |
| 2 | Beginning and end of mix does not cut out music or delay tail. The beginning or end has a silence of greater than 1 second.<br>OR<br>The mix output is too low OR is compressed OR there is some slight distortion.<br>OR<br>Cut delay or reverb tail. |
| 1 | Obviously chopped start or ending (not including tails)<br>OR<br>The mix output is unacceptably low or too high (distorted).<br>OR<br>Excessive use of mix compression causes pumping<br>OR<br>metronome has not been turned off.<br>OR<br>Any part is noticeably out of sync / out of tune<br>IGNORE previously assessed work:<br>Vocal timing in second half of chorus<br>Chords pitches |
| 0 | No mix present on audio recording. |

| Question Number | Indicative content |
|---|---|
| 6 | **AO3 (5 marks)/AO4 (15 marks)**<br><br>**Marking instructions**<br>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.<br>Responses that demonstrate **only** AO3 without any AO4 should be awarded marks as follows:<br>• Level 1 AO3 performance: 1 mark<br>• Level 2 AO3 performance: 2 marks<br>• Level 3 AO3 performance: 3 marks<br>• Level 4 AO3 performance: 4 marks<br>• Level 5 AO3 performance: 5 marks<br><br>**Indicative content guidance**<br>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:<br><br>AO3<br>• There are 5 mics. The hi-hat and toms are not separately mic'ed. The overheads pick up the cymbals, ambience and a general picture of the drum kit overall. The spot mics bring the individual elements more forward in the mix.<br>• EQ on the kick: HPF cuts out low frequencies. Low shelf boost increases the volume of the low frequencies. Upper mid boost increases the volume of upper mid frequencies.<br>• Faders: All the same level therefore little attention has been paid to the balance of the mic channels.<br>• Compression on the drum subgroup: Ratio of ∞:1 is a limiter.<br>• Aux send on the drum subgroup: The aux send is high, as well as the reverb return, so there will be a lot of reverb added.<br><br>AO4<br>• Compression on the overheads: The compression would add sustain to the cymbals. The low ratio would help reduce pumping. A small amount of compression would not over emphasise the room ambience preventing the kit sounding too distant. The compressors are not stereo linked so there could be image shift, especially if a floor tom is hit.<br>• Compression on the drum subgroup: The high threshold indicates that this limiter is being used to prevent distorted peaks rather than to compress the whole drum mix. |

| Question Number | Indicative content |
|---|---|
| **6 *(Contd.)*** | • HPF on the overheads: The cutoff frequency is higher than other spot mics. This would reduce the amount of kick drum and reverb from the kick drum in the overheads. Therefore the spot mic of the kick drum can be slotted in giving a drier more forward sound. Too much LF in a mix would create a muddy mix, especially when the bass guitar is added.<br>• Aux send on the drum subgroup: The reverb send is on the drum kit as whole therefore there is no control over the reverb amount on the individual elements of the kit. This would be a particular problem on the kick drum where reverb is not required because the kick will become too distant and muddy in the LF and LM. It would be better to use the aux sends on the mic channels rather than just one global send on the drum subgroup.<br>• Reverb time: A long reverb time could muddy the mix or make it sound too distant. |

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | No rewardable material. |
| Level 1 | 1–4 | • Demonstrates limited knowledge and understanding of production techniques/technology used, some of which may be misunderstood or confused (AO3).<br>• Shows limited analysis and deconstruction of production techniques/technology used with little attempt at chains of reasoning (AO4).<br>• Makes limited evaluative and/or critical judgements about the production techniques/technology used (AO4).<br>• Makes an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence (AO4). |
| Level 2 | 5–8 | • Demonstrates knowledge and understanding of production techniques/technology used, which are occasionally relevant but may include some inaccuracies (AO3).<br>• Shows some analysis and deconstruction of production techniques/technology used with simplistic chains of reasoning (AO4).<br>• Makes some evaluative and/or critical judgements about the production techniques/technology used (AO4).<br>• Comes to a conclusion partially supported by an unbalanced argument with limited coherence (AO4). |
| Level 3 | 9–12 | • Demonstrates clear knowledge and understanding of production techniques/technology used, which are mostly relevant and accurate (AO3).<br>• Shows clear analysis and deconstruction of production techniques/technology used with competent chains of reasoning (AO4).<br>• Makes clear evaluative and critical judgements about the production techniques/technology used (AO4).<br>• Comes to a conclusion generally supported by an argument that may be unbalanced or partially coherent (AO4). |
| Level 4 | 13–16 | • Demonstrates detailed knowledge and understanding of production techniques/technology used, which are relevant and accurate (AO3).<br>• Shows detailed and accurate analysis and deconstruction of production techniques/technology used, with logical chains of reasoning on occasion (AO4).<br>• Makes detailed and valid evaluative and critical judgements about the production techniques/technology used (AO4).<br>• Comes to a conclusion, largely supported by a balanced argument (AO4). |
| Level 5 | 17–20 | • Demonstrates sophisticated and accurate knowledge and understanding of production techniques/technology used throughout (AO3).<br>• Shows sophisticated and accurate analysis throughout, and deconstructs production techniques/technology used with logical chains of reasoning throughout (AO4).<br>• Makes sophisticated and valid evaluative and critical judgements about the production techniques/technology used (AO4).<br>• Comes to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently (AO4). |

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